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(WO/2005/049643) NOVEL CAROTENOID HYDROXYLASE GENE, PROCESS FOR PRODUCING HYDROXYLATED CAROTENOID, AND NOVEL GERANYLGERANYL PYROPHOSPHATE SYNTHASE GENE

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Title: (EN) NOVEL CAROTENOID HYDROXYLASE GENE, PROCESS FOR PRODUCING HYDROXYLATED CAROTENOID, AND NOVEL GERANYLGERANYL PYROPHOSPHATE SYNTHASE GENE
 (JA) 新規なカロテノイドヒドロキシラーゼ遺伝子及び水酸化されたカロテノイドの製造法及び新規なゲラニルゲラニルピロリン酸シンターゼ遺伝子

Abstract: (EN) A peptide obtained from *Brevundimonas* strain SD-212 and having a β -ionone ring-2-hydroxylase activity; and a gene coding for the same. Thus, it becomes feasible to realize mass production of a carotenoid having hydroxyl introduced at the carbon of 2-(2')-position of β -ionone ring, which carotenoid occurs in nature only in minute amount. There is further provided a novel gene coding for an enzyme for introduction of hydroxyl at the carbon of 3-(3')-position of carotenoid having a β -ionone ring, and provided a novel gene coding for geranylgeranyl pyrophosphate synthase.

(JA) ブレバンディモナスSD-212株から得られ、 β -イオノン環-2-ヒドロキシラーゼ活性を有するペプチド、及びそれをコードする遺伝子を提供し、自然界に微量しか存在しない β -イオノン環の2(2')位の炭素に水酸基が導入されたカロテノイドの大規模生産を可能にする。また、 β -イオノン環を有するカロテノイドの3(3')位に水酸基を導入するための酵素の遺伝子を提供する。

ロアノイドヒドロキラーゼ(CYP)の底系に小断無を導入する酵素をコードする新規な遺伝子及びノーブルノニルピロリン酸シンターゼをコードする新規な遺伝子も提供する。

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